

REMARKS

Claims 18-33 are pending. By this Amendment, claims 1-17 are cancelled without prejudice or disclaimer, claims 18-33 are added and the specification is amended. No new matter is added. Reconsideration based on the above amendments and the following remarks is respectfully requested.

I. Formal Matters

The specification is amended to remedy discrepancies noted during review. Paragraph [0008] is amended to conform the labeling in the specification with the drawings. Paragraph [0048] corrects a spelling mistake. Paragraph [0051] corrects a mathematic error. No new matter is added because the values 1.517×0.766 when properly multiplied result in 1.162. Approval of the specification changes is respectfully requested.

II. Pending Claims Define Patentable Subject Matter

The Office Action rejects claims 1 and 9-17 under 35 U.S.C. §103(a) as unpatentable over Japanese Patent No. 10-229512 issued to Sakata in view of U.S. Patent No. 5,838,504 issued to Ichikawa, claims 2-8 are further rejected over Sakata and Ichikawa in view of Japanese Patent No. 07-082510 issued to Matsumoto and U.S. Patent No. 6,147,821 issued to Kadodura. These rejections are respectfully traversed.

Claims 1-17 are canceled in favor of new claims 18-33 which clarify the invention. New independent claims 18, 28 and 30 of the presently claimed invention overcome the rejections cited in the Office Action.

Independent claim 18 now recites in part, "an imaging element disposed to the rear of said prism and used for converting a ray of light from the left and right sides of said prism into respective left and right image signals by concentrating light on an imaging plane via an imaging lens, the ray of light being incident on one of the right and left sides of said prism, reflected from the other side of said prism and emitted from the rear side of said prism to said

left and right image signals, and an internal reflection preventive means for preventing stray light from undergoing total reflection in said prism and preventing stray light from entering from the left and right sides of said prism into the opposing left and right image signals," and further defines the relationship between the refractive index of the internal reflection preventive means and the refractive index of the prism.

The present invention is directed to an imaging device that receives left and right images and prevents stray light that enters the left or right transmission window from appearing on the opposing left or right image signals. For example, Fig. 13 discloses the problem that the presently claimed invention addresses. Stray light 21A such as from an oncoming headlight enters transmission window 2R, reflects within prism 4, and then appears as 21B on the left image signal 22L. This causes viewer distortion and other problems.

Furthermore, the present invention prevents total reflection within the prism according to the equation in independent claim 18. For example, when the stray light has an incident angle of 50° , the index of refraction of the internal reflection preventive means needs to be greater than the sin of the incident angle multiplied by the index of refraction of the prism to prevent total reflection, as disclosed in independent claim 30. It is this relationship that makes the presently claimed invention distinct and non-obvious over the cited references.

Independent claim 28 now recites a buffer member to buffer the prism against vibration from a predetermined holder. This feature is not disclosed in any of the cited references and is believed to be distinct and non-obvious.

Sakata has a left and right face labeled 2A and 2B that allows light to enter into the prism and transfers the light to left and right image signals. However, Sakata does not address the problem of stray light as associated with the dual image signals. Specifically, there is no discussion of stray light entering either the left or right side of the prism and appearing on the opposing image signal. Moreover, besides not recognizing the problem,

Sakata fails to teach a solution to this problem of light entering one reviewing port (for example right side) being prevented from ending up on an image from another distinct viewing port (for example left side). For these reasons, one skilled in the art would not think to combine Sakata with Ichikawa as alleged.

Moreover, Ichikawa discloses a plastic prism of a shape different than that of Sakata. The prism in Ichikawa has only one surface for incident light and the prism is manufactured of plastic with uneven surfaces. That is, there is only a single image signal as opposed to Sakata which has two distinct and separate viewing image signals. The uneven surfaces in Ichikawa are then coated with black paint. There is no discussion of the index of refraction of the black paint and the index of refraction of the prism to prevent total reflection. As such, there can be no appreciation of the relationship between these that has been found to be relevant by Applicant to solve his particular problem.

The features of the presently claimed invention of a means for preventing stray light from entering an opposing image signal, the buffer for preventing vibration to the prism and the relationship of the indexes of refraction and the incident angle are believed to be patentably distinct and nonobvious over the teachings of Sakata and Ichikawa.

It is further noted that there is no motivation in any of the cited references to modify or combine its structure to construct the claimed invention. The only motivation for making the asserted modifications of the cited references is Applicants' disclosure, the consideration of which constitutes the impermissible use of hindsight.

It is also respectfully submitted that the Office Action picks and chooses elements from the cited references to construct the invention without reviewing the claimed invention as a whole, and without considering the context of the elements in the prior art reference. Sakata relates to a camera that allows viewing of a right and left side but does not address the issue of stray light. Ichikawa is a plastic prism of a different shape with a single surface for

incident light. Finally, Matsumoto discloses black paint with a refractive index of 1.5 with no discussion of the relationship of the different refractive indexes of the paint and prism. The alleged common use of glass with an index of 1.4 is not gleaned from the reference. Instead, it could only be derived from impermissible hindsight consideration of Applicant's problem and solution in which something was arbitrarily "picked" so as to meet the claimed relationship, which is neither taught nor appreciated by the art.

Combining these references would not result in the presently claimed invention. None of the references disclose the need relationship between the angle of incident of the stray light, the refractive index of the prism and the refractive index of the internal reflection preventive means. Also the present invention, for example, prevents stray light entering the left side of the prism from appearing on the right image signal. This is not just restriction a size of an image as in Ichikawa, but preventing light coming in with one image signal from inadvertently being displayed on a separate, discrete image formed from an entirely different image signal. Therefore, the presently claimed invention is believed to be non-obvious and patentably distinct from the cited references.

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 18-33 are earnestly solicited.

Should the Examiner believe that anything further is desirable in order to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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